

Title (en)

UNIFIED ROLLING AND BENDING PROCESS FOR ROLLER BEARING CAGES

Title (de)

EINHEITLICHES ROLL- UND BIEGEVERFAHREN FÜR ROLLENLAGERKÄFGE

Title (fr)

PROCÉDÉ DE LAMINAGE ET DE COURBURE UNIFIÉ POUR CAGES DE ROULEMENTS À ROULEAUX

Publication

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Application

EP 11705316 A 20110128

Priority

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- US 2011022939 W 20110128

Abstract (en)

[origin: WO2011094552A1] A method for manufacturing large diameter tapered roller bearing cages (10B). A straight metal strip, coil or plate of cage blank material (10), precisely dimensioned in width, length and thickness, with or without windows or pockets pre-cut, is fed into a rolling mill (100). The rolling mill incorporates a pair of unparallel forming rolls (102A, 102B) disposed such that the gap (G) there between forms a wedge shape. As the cage blank material (10) is fed through the wedge-shaped forming roll gap (G), one lateral side of the cage blank material is plastically deformed to reduce its thickness (T) and to elongate its length, while no deformation or only a very slight deformation is introduced to the other lateral side of the cage blank, thus forming the cage blank into an arc shape. A third roll (104) disposed in exit side of the forming rolls (102), in a pre-calculated position, bends the rolled cage blank into a circular conical ring (10A). After the entire cage blank is rolled into the conical ring configuration, the conical ring may pass through the rolling mill (100) again for a final resizing. Adjacent butt ends (12A, 12B) of the formed conical ring cage blank (10A) are aligned and joined together during the assembly process to form the large diameter tapered roller bearing cage (10B).

IPC 8 full level

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Citation (search report)

See references of WO 2011094552A1

Cited by

CN111801504A; CN113579018A

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